

February 4, 2004  
Case No.: NL 000045 (7790/214)  
Serial No.: 09/781,383  
Filed: February 12, 2001  
Page 2 of 10

**CLAIM AMENDMENTS**

Claims 1-18 are currently pending in the application.

Please amend claims 1, 2, 3, 5, 9, 10, 17 and 18 as shown below.

The following listing of claims 1-18 will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A display device, comprising:  
a liquid crystal between a first substrate provided with row or selection electrodes and a second substrate provided with column or data electrodes, said row electrodes and said column electrodes overlapping to define pixels;  
column drive means for driving the column electrodes in conformity with an image to be displayed; and  
row drive means for driving the row electrodes which, in the operating condition, sequentially supply groups of  $p$  row electrodes with  $p$  mutually orthogonal signals,  
wherein the mutually orthogonal signals are pulses obtained from at least two types of orthogonal functions having four elementary units of time, within which four elementary units of time one pulse each time has a first ~~nonzero~~ polarity which opposes a second ~~nonzero~~ polarity of the other pulses.
2. (Currently Amended) The display device of claim 1, wherein the orthogonal signals are pulses obtained from orthogonal functions having four elementary units of time, within which four elementary units of time the one pulse having the first ~~nonzero~~ polarity which opposes the second ~~nonzero~~ polarity of the other pulses each time shifts by one elementary unit of time.

February 4, 2004  
Case No.: NL 000045 (7790/214)  
Serial No.: 09/781,383  
Filed: February 12, 2001  
Page 3 of 10

3. (Currently Amended) The display device of claim 1 or 2, wherein the orthogonal signals are pulses obtained from orthogonal functions having four elementary units of time which, viewed in a time sequence, are situated one after the other.
4. (Previously Presented) The display device of claim 3, wherein at least two orthogonal signals have opposed DC contents.
5. (Currently Amended) The display device of claim 1 or 2, wherein the orthogonal signals are pulses obtained from orthogonal functions having four elementary units of time, in which the elementary units of the orthogonal functions are interwoven.
6. (Previously Presented) The display device of claim 1 or 2, wherein  $p = 4$ , and in that four orthogonal signals have identical DC contents and four are free from a DC voltage.
7. (Previously Presented) The display device of claim 6, wherein the DC content of 2 orthogonal signals of the orthogonal signals having an identical DC content is opposed to that of the two other orthogonal signals.
8. (Previously Presented) The display device of claim 1 or 2, wherein said row drive means inverts the orthogonal signals after each frame period.

cl  
cont X

February 4, 2004  
Case No.: NL 000045 (7790/214)  
Serial No.: 09/781,383  
Filed: February 12, 2001  
Page 4 of 10

9. (Currently Amended) A display device, comprising:  
a plurality of pixels defined by an overlapping of a plurality of row electrodes and a plurality of column electrodes; and  
drive means for driving said plurality of row electrodes to sequentially supply groups of  $p$  row electrodes with  $p$  mutually orthogonal signals,  
wherein the  $p$  mutually orthogonal signals are pulses obtained from at least two types of orthogonal functions having four elementary units of time, and  
wherein, for each elementary unit of time, one pulse has a first ~~nonzero~~ polarity that opposes a second ~~nonzero~~ polarity of the other pulses.
10. (Currently Amended) The display device of claim 9, wherein the one pulse having the first ~~nonzero~~ polarity which opposes the second ~~nonzero~~ polarity of the other pulses is shifted among the fourth elementary units of time.
11. (Previously Presented) The display device of claim 9, wherein the four elementary units of time viewed in a time sequence are situated one after the other.
12. (Previously Presented) The display device of claim 9, wherein at least two orthogonal signals have opposed DC contents.
13. (Previously Presented) The display device of claim 9, wherein the four elementary units of time are interwoven.
14. (Previously Presented) The display device of claim 9,  
wherein  $p = 4$ ; and  
wherein four orthogonal signals have identical DC contents and four orthogonal signals free from a DC voltage.

February 4, 2004  
Case No.: NL 000045 (7790/214)  
Serial No.: 09/781,383  
Filed: February 12, 2001  
Page 5 of 10

15. (Previously Presented) The display device of claim 14, the DC content of 2 orthogonal signals of the orthogonal signals having an identical DC content is opposed to that of the two other orthogonal signals.

16. (Previously Presented) The display device of claim 9, wherein said row drive means inverts the orthogonal signals after each frame period.

*C1 Cancel*  
17. (Currently Amended) The display device of claim 1, wherein the first ~~nonzero~~ polarity is a negative polarity; and wherein the second ~~nonzero~~ polarity is a positive polarity.

18. (Currently Amended) The display device of claim 9, wherein the first ~~nonzero~~ polarity is a negative polarity; and wherein the second ~~nonzero~~ polarity is a positive polarity.

---